What is Q fever?

Q fever is a disease caused by the bacteria *Coxiella burnetii*. The disease can occur in two forms: acute (short-term) and chronic (long-term). Q fever has been reported from most parts of the world. Although infection has been confirmed in many animal species, cattle, sheep and goats are the main natural reservoirs for *Coxiella burnetii*. This bacteria is highly resistant to heat, drying, and disinfectants and can survive for long periods in the environment (e.g., in dust, wool, straw, fertilizer, etc.).

Who gets Q fever?

Anyone can get Q fever. However, people with frequent animal exposures (such as veterinarians, researchers, meat workers, and sheep and dairy farmers) may be at greater risk. Many people diagnosed with Q Fever, however, do not report exposure to cattle, goats, or sheep, suggesting that healthcare providers should consider Q fever even in the absence of livestock exposure. On average, Virginia reports two human cases of Q Fever per year, while typically 100-150 cases are reported annually in the United States.

How is Q fever spread?

Q fever is very rarely spread from person to person. The most common way of becoming infected is by breathing in dust contaminated by the birth fluids, urine, or feces of infected animals. Direct contact with contaminated materials, such as wool, straw, or fertilizer has also been associated with Q fever. In addition, Q fever may very rarely be caused by drinking raw milk from infected cows, or by receiving blood or bone marrow transfusions from infected people.

What are the symptoms of Q fever?

About half of the people who are exposed to the Q fever bacteria do not have any symptoms. People who develop acute Q fever may have a sudden onset of fever (up to 105° F), severe headache, muscle aches, and a general feeling of illness. More severe illness may include pneumonia or inflammation of the liver (hepatitis), heart (myocarditis/pericarditis), or brain (meningitis/encephalitis). Women infected during pregnancy may be at risk for miscarriage. A small percentage of people infected with *C. burnetii* develop chronic Q fever. This most often involves infection of the heart valves, but can appear as hepatitis, bone infection (osteomyelitis), or chronic fatigue.

How soon after exposure do symptoms appear?

Symptoms of acute Q fever usually appear within two to three weeks after exposure. Chronic Q fever may occur months to years after exposure.

How is Q fever diagnosed?

Q fever is diagnosed through special laboratory tests on blood.

What is the treatment for Q fever?

Specific antibiotics can be prescribed by a doctor to treat Q fever. To be effective, treatment should start immediately and continue for several weeks. Chronic Q fever may require years of treatment with antibiotics and possibly heart valve replacement.

How can Q fever be prevented?

Q fever can be difficult to prevent because it is hardy in the environment and just a small number of bacteria can cause infection. That's why it is important to know the symptoms of Q Fever, seek medical attention right away if you become ill with fever and flu-like symptoms, and tell your healthcare provider that you work with animals and may have been exposed to the bacteria that cause Q fever. Those who work with livestock should take precautions such as wearing disposable gloves, protective clothing and boots that can easily be disinfected when assisting with birthing or handling birthing materials.

Milk from cows, goats, and sheep should be consumed only if pasteurized. No isolation or exclusion is necessary for persons with Q fever. A Q fever vaccine is not available for use by the general public. *C. burnetii* is easily dispersed into the air and airborne transmission of the disease to people living over a mile from the animal sources has been reported. Q Fever should be considered as a cause of illness if compatible symptoms are present, even in the absence of a history of livestock exposure.

Could Q fever be used for bioterrorism?

Yes. *C. burnetii* is one of the agents that could be used for bioterrorism because it is highly infectious, it is easy to obtain, and it would be easy to spread. Release of *C. burnetii* as a bioterrorism agent would likely be in the form of an aerosol.

How can I get more information about Q fever?

- If you have concerns about Q fever, contact your healthcare provider.
- Call your local health department. A directory of local health departments is located at http://www.vdh.virginia.gov/local-health-districts/.
- Visit the Centers for Disease Control and Prevention website at http://www.cdc.gov/qfever/.
- Visit the National Association of State Public Health Veterinarians' website at http://www.nasphv.org/documentsCompendia.html.

Q Fever: Overview for Health Care Providers

Two page summary of: Organism, Reporting, Infectious Dose, Occurrence, Natural Reservoir, Route of Infection, Communicability, Case-fatality Rate, Risk Factors, Incubation Period, Clinical Manifestations, Differential Diagnosis, Laboratory Tests/Sample Collection, Treatment, Vaccine

Q Fever: Guidance for Health Care Providers

Key Medical and Public Health Interventions After Identification of a Suspected Case

Q Fever Glossary of Medical Terms

Supplement to VDH's Q Fever Guidance for Healthcare Providers

February 2019